710 Asphalt

710.01 Anti-Stripping Additive

A bid item for "Anti-Stripping Additive" shall be included in projects with bituminous surface treatment (BST) using cut-back, not emulsified, asphalts, and projects with more than 200 tons, in any combination, of asphalt concrete pavement (ACP) and asphalt treated base (ATB).

The estimated force account dollar amount for "Anti-Stripping Additive" can be calculated as follows:

BST	$5 per ton of liquid cut-back asphalt
ACP/ATB	$1 per ton of ACP/ATB

Round the total estimated amount to the nearest $10.

710.02 Asphalt Concrete Approach

The item "Asphalt Conc. Approach Cl. ___" is to be used when there are more than five road approaches to be paved on the project. If there are five or fewer approaches to be paved, the costs for paving the approaches will be included in the cost of the main line paving.

This is not to be confused with county roads and city street intersections. County road and city street intersections shall be included in mainline paving quantities.

In either case, the approaches will be identified by approach sections on the roadway section sheets, and on the paving plans, if they are present, so the contractor is aware of the number, locations and paving requirements.

710.03 Asphalt Concrete for Preleveling

The bid item for "Asphalt Conc. for Preleveling Cl. ____" is to be provided when a project requires over 100 tons/lane/mile of preleveling of the existing roadway surface.

The quantity of preleveling is to be based on a survey of field conditions. In some regions, this survey may be made by the Materials Laboratory and they may provide the prelevel rate or quantity.

710.04 Asphalt Concrete Pavement Quality Assurance

As an incentive for contractors to provide superior quality asphalt concrete pavement, WSDOT pays a 3% bonus for providing consistent materials and a 2% bonus for compaction effort.

When a project calls for paving with asphalt concrete pavement, the item "Job Mix Compliance Price Adjustment" (JMCPA) will be required if the following condition exists:

If the total tonnage for a class of asphalt concrete pavement is greater than 2500-tons.

The price adjustment will be calculated using the following formula:

(0.03) (TEC)

where:
TEC = Summation of the Total Estimated Cost of each class of asphalt concrete pavement and prelevel greater than 2500 tons

Example:

Description	Quantity	Unit Price	Est. Cost
ACP Cl. B	2400	$40.00	$ 96,000
ACP Cl. B (prelevel)	1500	$35.00	$ 52,500
ACP Cl. G	1100	$42.00	N/A
Summation of Total Est. Costs (TEC) =			$148,500

(0.03)($148,500) = $4455

Use $4500 for "Job Mix Compliance Price Adjustment"

When a project calls for paving with asphalt concrete pavement, the item "Compaction Price Adjustment" will be required, regardless of the tonnage, if the following condition exists:

If the total compacted depth for a class of asphalt concrete pavement, except Class D or Class D modified, placed in the traveled roadway, is greater than 0.10'.

The price adjustment will be calculated using the following formula:

(0.02) (TWTEC)

where:
TWTEC = Travel Way Total Estimated Cost of asphalt concrete pavement with a total depth of 0.10' or greater.

Note: If the same compaction effort is required on the shoulders, the shoulders will be included in the calculations for "Compaction Price Adjustment". For instance, if the shoulders were being constructed full depth at this time because they will become a driving lane in the future, or if shoulder driving is going to be allowed. There would also have to be a Special Provision written specifying the same compaction effort is required on the shoulders as the traveled way.

Example:

Class B paving:
Length: 500'
Width: 2 lanes @ 12' and 2 shoulders @ 10.0'
Depth: 2 lifts @ 0.10' depth each = 0.20' depth
Unit Price: $40/ton
Conversion factor: 2.05 t/cy

$$\frac{(500')(24')(0.20')}{(27ft^3/cy^Y)} \times (2.05t/cy) \times \$40 = \$7,288.89$$

Class G paving:
Length: 300'
Width: 2 lanes @ 12' and 2 shoulders @ 4'
Depth: 1 lift @0.10' depth
Unit Price: $42/ton

$$\frac{(300')(24')(0.10')}{(27ft^3/cy^Y)} \times (2.05t/cy) \times \$42 = \$2,296.00$$

Travel Way Total Est. Cost (TWTEC) = $9,584.89

(0.02)($9,584.89) = $191.70

Use $200 for "Compaction Price Adjustment"

710.05 Asphalt for Fog Seal

The item "Asphalt for Fog Seal" is normally associated with bituminous surface treatment (BST) projects, but it is to be included in all open graded asphalt concrete pavement projects as well.

710.06 Soil Residual Herbicide

There are no criteria established for when soil residual herbicide is to be used in conjunction with asphalt concrete pavement, asphalt concrete sidewalks, bike paths, or parking lots. The designer is to check with the maintenance supervisor responsible for the area for a recommendation whether or not soil residual herbicide is required.

720 Earthwork

720.01 Aeration

If it is found necessary or desirable to include the bid item "Aeration" in a project, approval by the OSC Construction Office is required. A copy

of this written approval is to be included in the PS&E portion of the project file.

720.02 Borrow Material

Because WSDOT is committed to conserving valuable mineral resources, it is imperative that careful consideration be given to the earthwork portion of every project, to ensure the most efficient and cost effective use of the material from the roadway excavations.

If there is insufficient roadway excavation material, due to a shortage of onsite material, or because all, or a portion of the onsite material is known to be unacceptable for constructing embankments, material will have to be imported, and a borrow item will be included in the project.

If the borrow is required because the roadway excavation material is not acceptable for embankment construction, the Special Provisions shall identify the locations of the unacceptable roadway excavation material.

If a single type of borrow material is required to supplement the quantity of roadway excavation material, it will be the contractor's responsibility to determine the most efficient means of using the onsite material and the borrow to construct the embankments. The borrow quantities will appear only on the summary of quantities, not on the quantity arrows on the profiles. Then the borrow material can be placed by the contractor in the locations determined by the contractor to be the most efficient and cost effective for their operation.

If the borrow material is being used only at specific, well defined, locations on the project, bridge end embankments, for example, the exact locations are to be identified on the profile by showing the quantity arrow, indicating the station to station limits and quantity for the embankment constructed from the borrow material. If profiles are not included in the project, the Special Provisions are to contain a statement such as, "Gravel borrow shall be used to construct the bridge end embankments, L X+XX to L X+XX".

If two or more types of borrow material are required, the specific locations for all but one of the types of borrow shall be identified on the profiles, or in the Special Provisions, as described above.

> For example:
> If gravel borrow is required for the construction of bridge end embankments, and common borrow is required to supplement the roadway excavation material to construct other embankments, the station-to-station limits of the gravel borrow material are to be shown on the profiles, or the Special Provisions. It will remain the contractors responsibility to determine the most efficient and cost effective way to use the common borrow and the roadway excavation material to construct the remaining embankments, so the common borrow quantity will only appear on the summary of quantities.

In all cases, the quantities for roadway excavation and embankment shall appear on the summary of quantities and on the roadway profiles, or, on smaller projects, be tabulated on quantity tabulation sheets.

720.03 Clearing and Grubbing

For estimating purposes, clearing is to be calculated as being performed 10 feet, and grubbing 7 feet, beyond the toe of slope for embankments and the upper limit of slope treatment in cuts.

If clearing requires the cutting of merchantable timber, amounting to at least one log truck load (approximately 5000 board feet), from within the right of way, the GSP for Timber Export Restrictions is to be included in the Contract Provisions. This GSP notifies the contractor that they will be required to pay to the Department of Revenue the forest excise tax on the harvested lumber.

720.04 Earthwork for Guardrail Terminals

It is important that the designer include the earthwork quantities required to construct

guardrail terminals. It is easy to assume that these seemingly minor quantities will have little, if any, impact on the final quantities, so they are often left out of the final quantities.

There have been many projects where the earthwork quantities overran, and the reason for the overrun was because the designer had not included the required earthwork quantities for the construction of guardrail widening areas. As minor as these quantities may seem at the time of design, they can have a big impact on the construction project if not accounted for in the contract.

If, after the final guardrail locations are set, a final earthwork run is not made to account for the earthwork quantity in the flare construction, the following is to be used as an estimate of the quantity to be added into the computer generated earthwork quantity:

1. If the installation requires an SRT, use 10 cubic yards for each foot of embankment height.

2. If the installation requires no flare, use 4 cubic yards for each foot of embankment height.

If the project is basically a paver, with isolated areas of widening for guardrail or slope flattening, and profiles are not required for the paving, the earthwork quantities are to be presented in tabular form for each area, broken down into 3 station totals, or some other logical breakout.

720.05 Embankment In Place

This bid item is to be used on projects where earthwork consists mainly of borrow excavation. It provides payment for acquiring, excavating, hauling, placing, and compacting borrow materials to construct the embankment. The use of this item requires approval by the OSC Construction Office.

If there are *minor* quantities of roadway excavation included in the project, this work can be included in the item "Embankment In Place." Measurement for payment will be by the cubic yard volume between the original ground line and the neat lines of the embankment template. No allowance is made for subsidence or settlement.

The request to use this item is to contain the following:

1. Assurance that the foundation on which the embankment material is to be placed is unyielding.

2. Estimated quantities for borrow excavation, embankment compaction and roadway excavation.

720.06 Earthwork Measurement

Measurement of earthwork other than as specified in the Standard Specifications requires approval of the OSC Construction Office.

720.07 Truck Measurement of Earthwork Quantities

Truck measurement can be utilized on projects with 5000 cubic yards or less of embankment to be constructed, or when the project consists of numerous small embankment areas where cross sectioning is not practical.

720.08 Geotechnical Project Documentation

- The Region Project Development Office or Terminal Engineering Department for WSF is responsible to notify the OSC Geotechnical Services Branch at least 12 to 14 weeks in advance of the Ad or Shelf Date, when the final project geotechnical documentation is due for each pertinent project.

- When a PS&E is near completion, all of the geotechnical design memorandums and materials source reports are compiled to form the Final Geotechnical Project Documentation, to be published for the use of prospective bidders

- The Region Project Development office or Terminal Engineering Department for WSF

will identify at that time, who they have designated to receive, handle and continue the publication process of the report.

- ❖ It is desirable that the final geotechnical documentation be available for printing 10 weeks prior to the Ad or Shelf Date, but absolutely must be available no later than two Fridays prior to the AD or Shelf date.

- ❖ When transmitting the final project geotechnical documentation, the Headquarters Geotechnical Services Branch will explicitly identify the geotechnical documentation as **final** and camera-ready. Likewise, the region materials section will concurrently send a camera-ready **final** copy of region-generated reports, to be included as part of the geotechnical documentation for the project.

- ❖ For Headquarters Ad and Award projects, when the region has received the report, the Region Project Development office sends the complete package to the Headquarters Printing Services for final publication and to be made available to prospective bidders for purchasing. For Washington State Ferries' projects, WSF's Contracts/Legal Services Office is responsible to copy and make the report available to prospective bidders.

- ❖ The Headquarters Contract AD and Award Office will issue a notice indicating the availability of the geotechnical documentation to bidders.

- ❖ In addition, some geotechnical information shall be included as part of the contract and will generally consist of the final project boring logs, and/or a Summary of Geotechnical conditions when applicable. Both of these items are provided by the Headquarters Geotechnical Services Branch.

730 EEO And Training

730.01 DBE or MWBE Goals

Disadvantaged Business Enterprise (DBE) goals (federally funded projects) or Minority and Women's Business Enterprise (MWBE) goals (state funded projects) can be voluntary or mandatory. These goals are established by Construction Administration and the External Civil Rights Office.

730.02 Training Goals

The bid item for "Training" is to be provided on most federal aid projects. The training goals, in terms of the total number of training hours required, are established by the Headquarters External Civil Rights Office. The region may submit a training recommendation for consideration by the External Civil Rights Office.

740 Material Sources

740.01 Aggregate Stockpiles

The regions are authorized to spend M5 funds for acquisition of aggregates, under the construction contract, provided the region's biennial M5 allocation is not exceeded.

The following Headquarter offices need to be advised by the region of all M5 aggregate stockpile acquisitions made under a construction contract:

1. Administrative Services Office — Purchasing and Inventory Branch.

2. Comptroller's Office — Budget Management Branch.

3. Program Management Office — Programs Manager.

4. Pre-Contract Administration Office.

740.02 Amortization of Materials and Stockpile Sites

If a state source of materials is provided, the project report form is to include the dollar amount to be amortized, providing the region intends that amortization be included in the project.

The estimate will include the dollar amount so that federal aid participation can be obtained on federal aid projects, or so that proper accounting procedures can be followed when state funds only are involved.

740.03 Materials Sources and Waste Sites

Material sources provided by the contracting agency can be either mandatory or non-mandatory sites.

When mandatory material sources or waste sites are specified, the region shall provide a memorandum of justification, in accordance with FHPM 64116 CFR23 Volume 1 Section 635.407, showing a definite finding that it is in the public's best interest to require the use of the mandatory sites furnished or designated by the contracting agency. The use of mandatory sites can also be designated based on environmental considerations, provided the environment would be substantially enhanced without excessive cost. The memorandum of justification is to be placed in the PS&E portion of the project file. The contractor is required to use the mandatory site.

When non-mandatory sites are specified, the contracting agency makes the site available to the contractor, but the contractor has the option to use, or not use, the site.

Bid items for work to be performed within a non- mandatory site are to be site specific ("Wire Fence Type 1 – QS-X-XX"). This allows the contractor the opportunity to bid zero for these site-specific items if they do not intend to use the site. If the contractor decides later to use the site, the work specified by the site specific items will be performed, and the contractor will be paid at the bid amount of $0.00.

Site-specific items are not required for work to be performed in mandatory sites.

A separate column, under the appropriate group, is to be set up for each material source or waste site provided by the contracting agency. This allows the contractor to easily identify the work to be performed within a site, and also allows for easy accounting of the work by WSDOT.

The region shall prepare a haul road agreement if the haul route to or from the site is other than a state highway.

750 Other Contract Considerations

750.01 Addenda

Addenda are revisions to the plans and contract provisions that are made during the advertising period. Addenda are only to be issued when the revision will affect the contractors' ability to provide a responsible bid.

If there are material specification changes, new items, a substantial quantity revision (generally a 25% or greater increase or decrease) for an existing item, or a revision to a legal requirement in the contract, an addendum would be required. All of these would affect the contractor's bid.

Small adjustments to quantities, spelling, punctuation, design changes that do not affect quantity, and relocating items of work within the project will not normally require an addendum, because they will not affect the way the contractor bids the project. These items are not to be ignored, but the information, in the form of revised plan sheets, need only be passed along to the office of the construction project engineer, so they can be incorporated into the project and given to the contractor that is awarded the project.

For example:

> The advertised project has 23 catch basins to be installed, and it is discovered that an additional catch basin, not shown on the plans, will be required. This would not warrant an addendum if this was the only change being made. The small change in quantity will not impact the contractor's bid. This can be handled under

construction as any other increase in quantity.

Now let's say that the addition of the one catch basin causes the 18" diameter pipe item to increase from 985 feet to 1250 feet. This increase in pipe length is greater than 125% of the original, which could cause this item to be renegotiated under the contract, so the addendum would be justified. Since the addendum is required for the pipe, the additional catch basin would also be included in the addendum.

Appendix 5 has instructions and procedures for preparing Addenda.

750.02 Agreements

A conscientious effort shall be made to insure that all agreements necessary for the project are complete and signed prior to the project going to Ad. If this cannot be accomplished, it is the responsibility of the region to determine the risk involved in going to Ad without the completed agreement, in accordance with the Ad and Award Manual (M2-02). Particular attention is to be paid to the following:

1. The quantities, bid item names, units of measurement, and prices in the agreement are to be the same as those in the PS&E.

2. A local agency or utility may be financially responsible for some of the work in WSDOT's contract. This work may be the construction of sidewalks, utility installations, signal systems, pavement markings, intersection improvements, etc.

Some participating agreements will contain an "out clause", which allows the outside agency to withdraw the work if the bid prices are not favorable. When an "out clause" is included in the agreement, there is a GSP titled "Award Of Contract" that needs to be included in the Contract Provisions.

When preparing the estimate of cost for an agreement for work under the contract that is the financial responsibility of an outside agency, mobilization, engineering, and contingencies are to be included.

750.03 Alternate Bids

It is, at times, desirable to solicit bids using alternates for specific bid items for work to be performed under the contract. The contract estimate, proposal, and summary of quantities will be divided into sections. One section will contain the base information, and there will be a section for each of the alternates. This requires the contractor to bid the base portion of the project and to bid the alternates as required by the Special Provisions. By comparing the base bid plus the alternate bids, WSDOT is able to determine the most economical combination.

One of the conditions of setting up a project in this manner is that WSDOT has to treat each of the alternates as equal, and make the decision of which is the best bid based on the lowest cost alternate plus base bid.

This is different than allowing the contractor the latitude of choosing between different material options available for a contract item.

For additional information concerning alternates refer to the EBASE users guide.

750.04 Asbestos Removal

When the removal of asbestos or items containing asbestos is required or suspected, the specifications shall include sufficient information and detail to inform the contractor of the nature and location of the asbestos. There are GSP's that are to be included in the Contract Provisions. The WSDOT Asbestos Abatement Manual (M 2780) is to be used to determine if there are special conditions or requirements that should be included in the Contract Provisions.

750.05 Assign The Risk

It is important that the contractor can determine if the risks on the project will be their responsibility or will be borne by WSDOT. In most cases, it is best to assign the risk to WSDOT. This keeps the contractor from having to inflate bid prices to offset the possible risks of

doing the work. These inflated prices cost WSDOT extra dollars when the problem does not materialize.

For example, do not say "the contractor may encounter obstructions during the excavation". The contractor has to assume that obstructions will be encountered and that they will be the contractor's problem when they are. The unit price for the excavation will include the cost of obstruction removal, and WSDOT will pay for the removal even if there are no obstructions encountered.

It would be much better to say, "If obstructions are encountered during excavation, the Engineer will pay for the removal of the obstruction in accordance with Section 1-09.4". Now the contractor can bid the actual cost of doing the excavation work, and rest assured that if something out of the ordinary is encountered, the cost of removal will be dealt with fairly, and if there are no obstructions encountered, there is no cost to WSDOT.

750.06 Combining Bid Items

In an effort to streamline projects to make them easier for WSDOT to manage, as well as easier for the contractors to bid, some thought should be given, on each project, to doing similar, or associated work, under a single bid item instead of having two or more items under which to work.

The lump sum item "Removal of Structure and Obstruction" has always been made up of a combination of various removal items, and this will not change. This item is not governed by an estimated cost limit for work that can be included. As long as each different removal item is precisely described as to the actual work to be performed, the locations of the work, and the estimated quantity of work, there are no limits to the removal work that can be combined in the single "Removal of Structure and Obstruction" item. See Division 750.12 for additional discussion of lump sum items.

Work that is measurable, and the estimated cost is $2000 or greater, will be a separate bid item. However, if the work is minor, estimated cost less than $2000, and there is a *logical* item of work with which to associate the minor work, the items may be combined and the cost of the minor work included in the cost of the associated work.

The designer must remember that if items of work are combined, additional information will be required to describe the work involved and to make it clear what items are being combined, and the accuracy of the quantities provided for the combined items must be greater. For example, do not combine the cost of structure excavation with the cost of the pipe without giving a reasonably accurate estimated quantity for the structure excavation required for each pipe. Giving the ***total*** estimated quantity for the structure excavation does not provide the contractor a clear enough picture of the work required to make a responsible bid. Accuracy is also important, because it can be difficult to address over-runs, under-runs, or added work, when only one portion of the item combination is involved in the over- or under-run, or work is added to only one of the items of work.

Care must be taken to ensure that by combining the items of work, additional problems will not be encountered during construction because of changes in conditions or work methods. ***Items being combined shall relate to each other well, and the quantities shall be dependent on each other, so if one changes in the field, the associated quantities would be affected uniformly.***

> An example of a ***good combination***:
> If the project had a few locations where culverts were to be installed, it would be acceptable to include the cost of structure excavation with the per foot price for the size and type of culvert pipes. This is a good combination because the items are closely associated, and the quantities are dependent on one another. The quantity for structure excavation will increase or decrease as the length of pipe actually installed increases or decreases over the estimated quantity.

Even though this combination of items is logical, it is imperative that the quantities for the structure excavation be calculated to a higher degree of accuracy then if the two items were separate.

This higher accuracy of the structure excavation quantity is necessary because once the quantity is calculated for the planned length of pipe, that cubic foot of structure excavation per foot of pipe relationship never changes. If the calculated structure excavation quantity is too high, the Contracting Agency is overpaying for the work actually performed. If the calculated structure excavation quantity is too low, the Contractor is not being fairly compensated for the work performed. In either case, there is no way to make adjustments to the structure excavation.

If there was a separate pay item for the structure excavation, and the quantity for the item is miscalculated, the contractor will be paid for the actual work performed, so the estimated quantity is a basis for the contractors bid only.

The structure excavation quantity will appear on the structure note sheet as "informational only" for each associated structure code.

An example of a ***bad combination***:
Do not combine clearing and grubbing with embankment compaction, even though the plan is to clear and grub only where the embankments are to be constructed. The Special Provisions will have to specify the areas and approximate acres to be cleared and grubbed, so the contractor can include that cost in with the cubic yard price for embankment compaction. This is a bad combination of items, because the two items are not closely associated with one another. The quantity for either of these items could be increased or decreased without impacting the quantity of the other item.

If the items above are combined under a cubic yard pay item and during construction it is determined additional slope flattening is necessary within the original clearing and grubbing limits, it would be difficult to determine and justify and increase. The difficulty lays in the fact that clearing and grubbing is generally around $6000 per acre whereas embankment compaction is around $2.00 per cubic yard. In this case, the Contractor would be receiving a premium price for the additional embankment.

If the items above are combined under a per acre pay item and during construction it is determined additional clearing, grubbing, and embankment compaction is necessary, again, it would be difficult to determine and justify an increase. The problem is, how is a square acre converted to a cubic measurement?

To maintain consistency in the combining of items statewide, the OSC Plans Liaison Engineer for the region is to be consulted ***in advance*** of incorporating combined items into projects. In addition to consistency, this will provide a single office to monitor which items are routinely being combined, which item combinations work, and which do not, allowing for responsible decisions in the future.

Two items that cannot, by law, be combined with any other item of work are "Shoring or Extra Excavation Class A" and "Shoring or Extra Excavation Class B".

750.07 Legal Relations And Responsibilities To The Public

Section 1-07.1 of the standard specifications requires the contractor to comply with all Federal, State or local laws and regulations that affect work under the contract. These laws and regulations do not need to be identified in the contract. However, certain project specific regulations that may come in the form of permits, agreements, MOUs, license, variances, or others need to be identified in the contract. Examples of such regulations with conditions

that need to be part of the contract are; HPA, EIS, Noise Variance, Shoreline Permit, Department of Ecology MOU, and other documents that would effect or restrict work on the contract.

In many cases the GSPs will trigger the need for the text of such documents to be listed in the Special Provision either as a fill-in or as an appendix. When construction activities require the need for a permit, variance, agreement, MOU or other regulations, the Designer should always discuss the need for such documents to be put in the contract with the appropriate Region Support Staffs.

750.07.01 Decommissioning of Well Process

The water well abandonment procedure shall adhere to the Washington State Department of Ecology regulations for abandonment of water wells following the guidelines in WAC 173-160-460 and RCW 18.104.048. Notice shall be given at least seventy -two hours in advance of commencing work. The notice shall be submitted on forms provided by the Washington State Department of Ecology with the proper fees.

750.08 Equipment Acquisition Through Construction Contracts

The practice of WSDOT acquiring, through a construction contract, items that would normally be acquired or purchased through the equipment fund, is to be avoided. This practice circumvents the state's procedures and purchasing rules.

Specific examples are survey equipment, vehicles, radios, maintenance equipment, workboats, and truck-mounted impact attenuators.

750.09 Force Account Work

Standard item number 7715, "Force Account ___," has been created to monitor the total amount of money spent on force account work. This standard item, with the appropriate fill-in information, is to be used for all force account bid items, except for those already having a standard item number.

The use of this standard item number does not preclude the need for a project specific provision to describe the work to be accomplished.

The force account item is to be placed in the appropriate section on the Summary of Quantities. (A force account removal item would be placed with the other removal items; a force account structure item would be placed with the other structure items.)

750.10 Haul Road and Detour Agreements

When the project provides a materials source, or requires traffic to be detoured from the state highway, the region is required to acquire agreements with the owners of the roads that will be used as the haul route or the detour route. The process of generating an agreement should be started as early in the design phase as possible. The lack of a completed agreement will not necessarily cause a project ad date to be delayed. It is the responsibility of the region to determine the risk involved in going to Ad without the completed agreement in accordance with the Ad and Award Manual (M2-02).

The agreement will normally provide compensation to the owner of the haul route or detour for damage done to the road by the hauling equipment, or by the extra traffic placed on the roadway. The compensation may be in the form of work to be done under the contract to bring the roads back to pre-contract conditions, or may pay the owner a cash settlement and they would be responsible for making the repairs.

All haul roads and detours are to be clearly shown and labeled on the vicinity map.

750.11 Liquidated Damages

Liquidated damages are monies assessed or withheld from the Contractor's payment for failure to complete the project, or part of the project, within a specified period of time. Liquidated damages are not to be considered a penalty, but reimbursement for the costs to the

contracting agency for the contractor's failure to perform within the time frame of the project.

Liquidated damages for total project completion are calculated in accordance with the formula in Section 1-08.9. This formula calculates the estimated cost to WSDOT to continue engineering the project beyond the allotted contract time, and is not to be used to calculate any other type of damage.

Large or complex projects often have interim completion times with interim liquidated damages, for such things as failure to open traffic lanes on time. Interim liquidated damages can be assessed in time increments that range from 15-minute to full-day segments. Liquidated damages assessed for failure to have a lane open to traffic at the specified time are an estimate of the actual cost to contracting agency and the traveling public for not having the lane available. The OSC Transportation Data Office has a computer program that calculates the cost, based on traffic counts. This is the only acceptable way of calculating these costs.

Once the designer has the calculated costs, the determination must be made whether the damages represent a sufficient benefit to the state to put them in the contract. If it is determined that it will cost the traveling public $100 an hour to not have use of a ramp from 3 p.m. to 6 p.m., and it is anticipated that the cost to the contractor will be more than the $300 to stop work and reopen the ramp by 3 p.m., there is likely no benefit to including liquidated damages in the contract. Because $100 an hour is a minimal cost to the public, we should see the benefit of allowing the contractor to work through this period and finish the work in the area more quickly.

Interim liquidated damages for reasons other than lane or ramp closures are allowed, but the same rules will apply. The designer must be able to identify and document the cost associated with the damage. This information shall be approved by the OSC Construction Administration Office, or forwarded to FHWA for approval, if required.

The Special Provisions will clearly state when the assessment of interim liquidated damages will begin and end. Interim liquidated damages can be additive. For example, failure to open a ramp on time and failure to open a lane on time. What cannot be additive is interim liquidated damages and liquidated damages for failure to complete project on time.

A copy of the data used to justify liquidated damages and a copy of the OSC Transportation Data Office information are to be placed in the PS&E portion of the project file.

750.12 Lump Sum Bid Items

A lump sum bid item may include several items of work, or the same item of work at different locations. The Special Provisions shall include the description of work and the approximate quantities for bidding purposes. The quantities listed should be double checked to avoid contractor claims.

Only work that can be easily defined by quantity, amount of effort, and equipment and labor requirements are to be included in lump sum items. If any of these items are unknown, or even uncertain, payment at unit prices or by force account would be more appropriate.

The backup data used to determine the estimated cost for lump sum bid items is to be placed in the PS&E portion of the project file.

The designer must decide whether each lump sum bid item is to be prorated, or individual summary of quantities column costs assigned for each lump sum bid item.

750.13 "Might Need This Item" Items

The designer is advised to avoid including items in the project that they think "might" be needed. This is particularly important for items such as borrow or excavation below grade, because the contractor bids, at a high price, the small quantity shown, and then finds a way to use a considerable quantity of the item on the project.

If it is unknown if the item is required, it is best to leave it out of the project and let the

construction office add the item by change order if necessary. History states this is the cheapest, easiest way of handling these items.

There will be times when this sort of item may be appropriate, and in these rare cases, it should be included as a force account item, so the Engineer has complete control of the work.

750.14 Paths and Trails

WSDOT tracks expenditures for pedestrian and bicycle facility improvements so we can report to the Legislature and the public this information. Washington State Department of Transportation will also be able to use this data to measure performance of our transportation system.

The following are example types of work that are to be included in the calculations for pedestrian and bicycle facilities. (See Design Manual Division 1020 for additional definitions and information.)

- Shared Use Path: A facility on exclusive right of way with minimal cross flow by motor vehicles designed and built primarily for use by bicycles but is also used by pedestrians, joggers, skaters, wheelchair users (both non-motorized and motorized), and others.

- Structures: An overpass or underpass, tunnel, or bridge to provide continuity of a shared use path, bikeway, walkway, hiking trail, or sidewalk around, over or across obstacles.

- Sidewalk: A walkway separated from the roadway with a curb, constructed of a durable, hard and smooth surface such as concrete or asphalt, designated for preferential or exclusive use by pedestrians. This category is to include sidewalk or shared use path on structures.

- Bike Lanes/ Bikeway: Any trail, path, portion of a highway or street or shoulder specifically signed and/or marked for bicycle travel.

Additional items to be included in these calculations:

- Pavement markings associated with pedestrian and bicycle facilities;

  Crosswalks: Portion of the roadway designated for pedestrian crossings, marked or unmarked; unmarked crosswalks are the natural extension of the shoulder, shoulder curb line or sidewalk. Improvements to crosswalks consist of markings to delineate the crosswalks for motorists' detection, or may consist of different surface treatment such as concrete or colored asphalt to distinguish it as the crossing area. Another type of crosswalk is a "raised" crosswalk, intended to enhance visibility of the pedestrian to the motorist as well as encourage the motorist to slow down.

  School Crossing: A crossing adjacent to a school or on established school pedestrian routes, designated as a preferred crossing for school users.

  In-Pavement Flashing Warning Devices: A traffic-warning device used at pedestrian crosswalks.

  Preferential Lane Symbols and Signing: Identified signs and/or pavement markings that designate for bicycle use.

Pedestrian Signals/ Detectors: Electronic devices used for controlling the movement of pedestrians at signalized mid-blocks or intersections, which may include the "walk/don't walk" messages or the symbolic walking person/hand message.

Pedestrian Scale Lighting: Overhead street lighting which is typically over the sidewalk instead of the roadway, and at a lower height that typical street light fixtures; providing illumination for pedestrians instead of motorists.

Bicycle Facilities Lighting: Illumination necessary to achieve minimum levels of safety, security, and visibility.

Projects that are done specifically for pedestrian/bicycle facilities should be included in the calculations in their entirety. These may include such items as:

- Curb Ramps: the area of the sidewalk, usually at the intersection, that allows easy access/transition for wheelchairs, strollers, and other wheeled equipment, between the sidewalk and the street.
- Bulb Out/Curb Extension: A curb and sidewalk bulge or extension out into the roadway used to decrease the length of a pedestrian crossing.
- Pedestrian Refuge Island: A raised area between traffic lanes that provides a place for pedestrians to wait to cross the street.
- Planting or "Buffer" Strip: A strip of land that physically and/or visually separates two land uses, especially if the uses are incompatible. These strips are important to separate pedestrians from motor vehicles.

Shoulders: Paths and Trails calculations for bicycle facility improvements shall be done if an existing shoulder is widened to a minimum of 4' to allow bicycle or pedestrian use and the shoulder meets the following condition:

The shoulder is on a Rural Bicycle Touring Route, which are US and State Routes 2, 4, 8, 12, 14, 20, 97, 101, 195, and 503.

Overlaying an existing shoulder with asphalt concrete pavement (ACP) or bituminous surface treatment (BST) does not constitute the need for paths and trails calculations.

For projects meeting the above criteria, the paths and trail calculations are as follows; 50% of the cost to widen the shoulder to the ultimate shoulder width.

If further clarification is required please call Highways and Local Programs 360-705-7372.

750.15 Permits

A conscientious effort shall be made to insure that all permits necessary for the project are completed and signed prior to the project going to Ad. However, in the event that this cannot be accomplished it is the responsibility of the region to determine the risk involved in going to Ad without the completed permit in accordance with the Ad and Award manual (M2-02).

750.16 Proprietary Item Specifying, Brand Name Specifying and the Qualified Products List (QPL)

Approval of Proprietary Items

WSDOT uses competitively acquired products to fulfill the material requirements of a Contract. With prior approval, from the Assistant State Design Engineer, proprietary materials, work (by consultants, for example), manufacturers,

and products can be incorporated into a project without the benefits of the competitive bid process. All projects advertised by WSDOT for construction that incorporate proprietary items, regardless of funding sources, require written approval for the use of proprietary items.

By the Stewardship Agreement, WSDOT has adopted the Code of Federal Regulations (CFR) for approval of proprietary items on all projects. CFR23 Chapter 1 Part 635 Section 635.411 provides specific guidelines as to use and approval of proprietary items. The guidelines are as follows:

A proprietary item will not be approved for use in a project unless one or more of the following apply:

1. It is purchased or obtained through competitive bidding with other items.

2. It is essential for synchronization with existing highway facilities:

   a. A certain product (or manufacturer) is to be used because the product (or manufacturer) is essential to the existing highway. A product could be essential due to the fact it has been tested with other components and is documented to work with existing components or that it is a one of a kind item. A product or manufacturer could be essential because using anything else would require replacing other components of the existing highway system.

   b. No other equally suitable alternative exists:

      i. The product (or manufacturer) is one of a kind.

      ii. Other workable alternative products or manufactures are not equal, in longevity, cost, delivery, durability, compatibility, warranty, etc.

3. It is used for research, or for a distinctive type of construction on relatively short sections of road for experimental purposes:

   a. Research to obtain experimental information on a product or manufacturer for the public good. When requesting this type of usage, approval documentation showing the scheduling, monitoring, results, and conclusion are required with the request.

4. It is deemed as being in the public interest:

   a. If a significant investment has been made in a product through training, parts, maintenance familiarity, equipment and warranties, approval may be granted in that retaining the product is in the public interest.

   b. If the product (or manufacturer) is needed for coordination of systems between agencies such as police, fire, hospitals, WSDOT emergency services and others, approval may be granted in that retaining the product (or manufacturer) is in the public interest.

Using Proprietary Items in Contracts
Before specifying any proprietary material, work, manufacturer or product in a project, written approval must be granted by the Assistant State Design Engineer assigned to the region. It is the designer's responsibility to get a memorandum of justification, from whoever is requesting the use of the proprietary item, submitted to the Assistant State Design Engineer in sufficient time for it to be reviewed, acted upon, and adjustments made to the contract should the use be denied.

The memorandum of justification should include a brief description of where the project is located, what constitutes the requirement for the proprietary item and justification for the use of the proprietary item as covered in the guidelines listed above. Justifications should state why there is no equally suitable alternate or why it is essential for synchronization with existing facilities, and why a specification can not be written to get only the products that will meet the objectives.

To specify a proprietary item once it has been approved. The designer will, in the Special Provisions, give the product manufacturer, the model, the model number, and any additional information required to ensure that only the specified item will be furnished. There will usually only be one item named in the Special Provisions when listing a proprietary item.

When three or more different, acceptable products or manufacturers exist, the item is not a proprietary item. That is the minimum amount required for competitive bidding standards.

The phrase "or approved equal" will never follow the naming of a proprietary item in a Special Provision. There are no options allowed, the contractor's bid is to reflect providing the item specified.

Brand Name Specifying in Contracts
The alternate to proprietary item specifying is brand name specifying. When brand name specifying, the designer is providing the bidder with options by naming at least three products or manufactures that are acceptable, and allowing for "approved equals". When three or more items plus "approved equal" are listed, no approval is required for usage.
In order for the contractor to know what would be approved as equal, the designer must list the features that the named products/manufacturers have in common and that make them acceptable. A good specification for brand name specifying will read as follows:

> The (whatever it is) furnished shall be (brand name, model), (brand name, model), (brand name, model), or an approved equal having the following features (functions):
>
> 1. (feature)
> 2. (feature)
> 3. (feature)

In order to find the three acceptable items, the designer had to be looking for certain features or functions. These features or functions are the ones that need to be included in the Special Provision.

Qualified Products List
The Qualified Products List (QPL) is a list of products and materials that have been pre-approved for use on WSDOT projects. If the contractor chooses to provide items on the QPL, there is no need to submit a request for approval of manufacturer (RAM), and for some products or materials, indicated on the QPL list, no requirement to submit the items for testing prior to using the product or material on the project.

The QPL has absolutely nothing to do with proprietary items or brand name specifying. The pre-approval of items in the QPL does not mean that they are the only products or materials that will be allowed. The contractor can provide any product or material that meets the specifications whether they are on the QPL or not.

There is a definite difference between proprietary item specifying and brand name specifying, and the Qualified Products List has nothing to do with either proprietary or brand name specifying.

Proprietary Items
A proprietary item is a specific item incorporated into a project without the benefit of the competitive bid process. With prior approval, proprietary items can and are occasionally used in construction projects. Due to federal regulations, proprietary items must meet certain criteria to qualify for federal funding participation.

A proprietary item must:

a. Be certified as, essential for synchronization with existing highway facilities
b. No suitable alternate exists; or
c. Used for documented research for a distinctive type of construction on a relatively short section of highway.

Washington State Department Of Transportation (WSDOT) has adopted the same approval process for proprietary items for all projects, whether federally funded or state funded. Before a proprietary item can be specified in any project, the Assistant State Design Engineer assigned to the region must grant approval. The District Engineer of the FHWA maintains approval for all new/reconstruction projects on Interstate routes. It is the designer's responsibility to have a memorandum letter of justification, from the person requesting the use of the proprietary item, submitted to the Assistant State Design Engineer in sufficient time for it to be reviewed, acted upon, and adjustments made to the contract should the use be denied.

When items of work require the use of Brand Names, the designer can avoid proprietary item status if they list three Brand Names for use in the contract. **If one or two Brand Names are given for an item**, **the item is Proprietary**. ***However,*** **if one or two Brand Names are given for an item, and the phrase, "or equal" is added, and the contract *defines the requirements that make another item "equal"* then the item is not Proprietary, it is "Brand Name Specifying" (see below).**

To specify a proprietary item, the designer will, in the Special Provisions, give the product manufacturer, the model, the model number, and any additional information required to ensure that only the specified item will be furnished. There will usually only be one item named. **The phrase "or equal" will never follow the naming of a proprietary item.** There are no options allowed,; the Contractor's bid is to reflect providing the item specified.

Brand Name Specifying
Generally, the "brand name or equal" clause is the least desirable form of specifications. It causes the most misunderstandings, confusion and protests and should be avoided if possible. The use of a "Brand Name" is designed to establish a reference and a standard of quality for the product to be used. It is not intended to limit competition. In order for the contractor to know what would qualify as an "or equal" item, the designer will list the features the Brand Named products have in common that make them acceptable for use. If Brand Name specifying is used it should be in the following format:

> The (whatever it is) furnished shall be (brand name, model), (brand name, model), or an approved equal having the following features (functions):
>
> 1. (Feature)
> 2. (Feature)
> 3. (Feature)

In order to find two Brand Names to list for the item of work, the designer had to be looking for certain features or functions that those brands had in common. It is those features or functions that need to be included in the Special Provision where listed above.

Qualified Products List
The Qualified Products List (QPL) is a list of products and materials that have been pre-approved for use on WSDOT projects. If the contractor chooses to provide items on the QPL, they do not need to submit the request for approval of source, and for some products or materials, as indicated on the QPL list, do not

have to submit the items for testing prior to using the product or material on the project.

The QPL has absolutely nothing to do with proprietary items or brand name specifying. The pre-approval of items in the QPL does not mean that they are the only products or materials that will be allowed. The contractor can provide any product or material that meets the specifications whether they are on the QPL or not.

750.17 Removal of Pavement, Sidewalks, and Curbs.

When pavement, sidewalk, or curb removal is required outside the limits of an excavation area, it can be included in the lump sum price for "Removal of Structures and Obstructions", or separate bid items may be established for the work.

If the work is included as part of the lump sum item, the Special Provisions will indicate the approximate locations and quantities. If separate bid items for removal are established, the individual items will appear on the Quantity Tabulation sheets, where the approximate locations and quantities will be indicated. In either case, the locations of the removal items will be indicated on the plans as well.

When pavement, sidewalk, or curb removal is required within the limits of an excavation area, nothing is required on the plans or in the Special Provisions. All costs for the removal of the pavement, sidewalk, or curb are included in excavation work and no additional compensation is made to the contractor.

The other possibility is that for some reason, the designer wants the contractor to remove the pavement, sidewalk, or curb that lies within an excavation area prior to performing the excavation. In this case, the work would be handled as described above for removal outside of an excavation area.

750.18 Retaining Walls

When a project contains standard retaining walls, as detailed in the Standard Plans, the contract plans shall include the following:

1. A plan and profile of the wall along with original and proposed ground profiles at the front and back faces of the wall.
2. All existing utilities in the vicinity of the wall.
3. Wall geometry.
4. Right of way limits.
5. Construction sequence and stage construction sequence requirements.
6. Highest permissible elevation for foundation construction.
7. The location, depth, and extent of unsuitable material.
8. Quantities for the wall and backfill materials.
9. Details of wall appurtenances such as traffic barriers, coping, wall face treatment and limits of treatment, drain outlets, location of signs and lighting, including conduit locations.

In general, a site that will support a standard cantilever retaining wall will also support a proprietary retaining wall. If the region decides to provide pre-approved proprietary retaining wall systems as an alternate, the OSC Materials Laboratory Foundation Engineer and the OSC Bridge and Structures Office Bridge Project Engineer need to be consulted on the selection of the suitable wall systems for the conditions. In order to evaluate aesthetic considerations, a rough site plan shall be submitted to the OSC Bridge Project Engineer for review.

The region will be required to contact the suppliers of the selected retaining wall systems to confirm the adequacy of the systems for the given situation. The OSC Materials Laboratory Foundation Engineer is to be contacted to provide assistance in evaluating the systems for

overall stability, and to provide soil criteria for design.

The OSC Bridge and Structures Office will prepare the Special Provisions for pre-approved proprietary retaining walls, including design criteria. The OSC Foundation Engineer will be consulted for establishing criteria for design. The Special Provisions will require the proprietary wall manufacturer selected by the contractor to submit shop plans, design criteria, and calculations to the Engineer for approval. The OSC-Bridge and Structures Office will then review the design submitted by the pre-approved proprietary wall manufacturer.

In addition, keep in mind that these are alternates that may be selected by the contractor and that all of these alternates are proprietary. On all federal aid projects, three must be selected or reasons for using fewer alternates must be submitted to the Assistant State Design Engineer assigned to the region, for approval. Proprietary retaining wall systems are pre-approved for certain heights. Walls that exceed the pre-approved height will be considered special designs and each must be submitted to the OSC Bridge and Structures Office for review and approval.

750.19 Roadside Considerations

For all projects requiring work outside the shoulders, it is important that the designer contact the region Landscape Architect or OSC Landscape Architect (for regions with no Landscape Architect) to determine if there are ways to minimize impacts to the roadside.

The Roadside Classification Plan outlines requirements, based on project type, for re-vegetation, permanent erosion control, irrigation and landscape planting. The Landscape Architect can assist the designer in fulfilling these requirements.

750.20 Royalties on Materials Sites

If the contracting agency furnishes a materials site owned by others, and the owner requires a royalty be paid for materials removed from the site, the dollar amount of the royalty, and who will be responsible to pay the royalty, will be specified in the Special Provisions. FHWA has authorized federal aid participation in royalty payments.

750.21 Shoring or Extra Excavation

All excavation 4 feet or more in depth shall be shored, protected by cofferdams, or shall meet the open-pit requirements specified in the Standard Specifications.

RCW 39.04.180 requires that a separate bid item for shoring or extra excavation be included in the estimate and proposal. In no case shall the costs for shoring or extra excavation be included in other bid items.

750.22 Specialing Out Right of Way Parcels

It may be necessary to identify right of way parcels that are unavailable to the contractor for construction at the time the contract is awarded.

The Special Provisions shall be specific as to the location of the parcels and the estimated dates of availability to the contractor. The region Real Estate Services office can provide a reasonable availability date to go in the Special Provision. There is no problem if the property becomes available early, but there can be big problems if the property is not available by the date promised.

Right of way parcels that are specialed out must also be indicated on the right of way or alignment/right of way plans by drawing in the appropriate property lines and by cross-hachuring the parcels. The plans shall indicate that the cross-hachured parcels are unavailable and there will be a note referencing to the Special Provisions.

When right of way is being specialed out, the order of work has to be examined to ensure that the project sequencing is not adversely affected because portions of the right of way are not available for immediate use.

750.23 Standard Items

The Standard Bid Item Table is not a complete listing of standard items. It is a list of the bid items being tracked in the Unit Bid Analysis (UBA) system. Code numbers referred to as the Standard Item Numbers tracks them.

Standard items are, in reality, those items that appear in the payment statements in the Standard Specifications. Many of these payment statements, like the following, are written with blanks:

> "Asphalt Conc. Pavement Cl. ____", per ton.
> "Catch Basin Type ____", per each.
> "Manhole Additional Height ____ In. Diam. Type ____", per foot.

If the blanks are filled in with the expected information and the information in the Standard Specifications applies, they are standard items even though they may be a size, type or class not shown in the standard item table.

Minor revisions, with little or no impact on the cost, can be made to the material or construction requirements in the Standard Specifications, and they can remain standard items. Care must be taken, however, not to mislead the contractor by making major revisions that could affect the cost of the item substantially, and call it the standard item. In these cases, it is best to develop a nonstandard item.

750.24 Standard Plans

WSDOT's Standard Plans are made a part of contracts by reference in the Special Provisions. Plan details are not to be drawn that duplicate details in the Standard Plans, and the designer is not to redesign a standard plan by detail in the project. It is important that standard work be done the standard way, and that standard materials be used whenever possible, because in almost all cases, standard stuff costs less.

750.25 State Force Work and State Furnished Materials

The designer shall provide written justification for all state furnished materials and all state force work to be performed on all projects, in accordance with RCW 47.28.030 and RCW 47.28.035.

These RCWs read as follows:

> **RCW 47.28.030**
> Contracts -- State forces -- Monetary limits -- Small businesses, minority, and women contractors -- Rules.
>
> A state highway shall be constructed, altered, repaired, or improved, and improvements located on property acquired for right of way purposes may be repaired or renovated pending the use of such right of way for highway purposes, by contract or state forces.
>
> The work or portions thereof may be done by state forces when the estimated costs thereof is [are] less than fifty thousand dollars and effective July 1, 2005, sixty thousand dollars: PROVIDED, That when delay of performance of such work would jeopardize a state highway or constitute a danger to the traveling public, the work may be done by state forces when the estimated cost thereof is less than eighty thousand dollars and effective July 1, 2005, one hundred thousand dollars.
>
> When the department of transportation determines to do the work by state forces, it shall enter a statement upon its records to that effect, stating the reasons therefore.
>
> To enable a larger number of small businesses, and minority, and women contractors to effectively compete for department of transportation contracts, the department may adopt rules providing for bids and award of contracts for the performance of work, or furnishing equipment, materials, supplies, or operating services whenever any work is to be performed and the engineer's estimate indicates the cost of the work would not exceed eighty thousand dollars and effective July 1, 2005, one hundred thousand dollars.

The rules adopted under this section:

(1) Shall provide for competitive bids to the extent that competitive sources are available except when delay of performance would jeopardize life or property or inconvenience the traveling public; and

(2) Need not require the furnishing of a bid deposit nor a performance bond, but if a performance bond is not required then progress payments to the contractor may be required to be made based on submittal of paid invoices to substantiate proof that disbursements have been made to laborers, material men, mechanics, and subcontractors from the previous partial payment; and

(3) May establish prequalification standards and procedures as an alternative to those set forth in RCW 47.28.070, but the prequalification standards and procedures under RCW 47.28.070 shall always be sufficient.

The department of transportation shall comply with such goals and rules as may be adopted by the office of minority and women's business enterprises to implement chapter 39.19 RCW with respect to contracts entered into under this chapter.

The department may adopt such rules as may be necessary to comply with the rules adopted by the office of minority and women's business enterprises under chapter 39.19 RCW.

[1999 c 15 § 1; 1984 c 194 § 1; 1983 c 120 § 15; 1977 ex.s. c 225 § 3; 1973 c 116 § 1; 1971 ex.s. c 78 § 1; 1969 ex.s. c 180 § 2; 1967 ex.s. c 145 § 40; 1961 c 233 § 1; 1961 c 13 § 47.28.030. Prior: 1953 c 29 § 1; 1949 c 70 § 1, part; 1943 c 132 § 1, part; 1937 c 53 § 41, part; Rem. Supp. 1949 § 6400-41, part.]

RCW 47.28.035
Cost of project, defined.

The cost of any project for the purposes of RCW 47.28.030 shall be the aggregate of all amounts to be paid for labor, material, and equipment on one continuous or interrelated project where work is to be performed simultaneously.

The department shall not permit the construction of any project by state forces by dividing a project into units of work or classes of work to give the appearance of compliance with RCW 47.28.030.

[1984 c 194 § 2.]

If the project is new/reconstruction on the interstate, the justification for state furnished materials and state force work requires FHWA approval.

The justification for work to be done by state forces and state furnished materials is to be submitted to the Assistant State Design Engineer assigned to the region, in sufficient time to allow for review and approval prior to advertising of the project. When FHWA approval is required, the justification must also include a request for federal funding participation.

The justification for both state furnished materials and state force work must show that it is economically cost effective to provide the materials, or to perform the work with state forces. This justification must go into the documentation file.

The maximum, total dollar value of work done by state forces, including labor, materials and equipment, is as stated in the RCW above per state highway per construction project. State

force work shall be listed as below the line items in the project estimate.

There are a few items of work that have received a blanket approval to be performed by state forces and receive FHWA funding participation. They are striping, pavement marking, second stage fertilizing, and one-way piloted traffic control. No justification is required for these items, but they are still governed by the total dollar value allowed for state force work.

Work that is ***not*** to be considered state force work is inspection of any type, material testing, monitoring, public relations work, or any kind of investigation or research. If state forces do any of this type of work, it is to be included in the engineering and contingencies. If the cost of this work is substantial, it can be used as justification to increase the engineering and contingency percentage to offset the costs.

WSDOT provided materials and equipment are not considered to be state force work as long as there is no labor performed by state forces. For example, WSDOT can provide a $50,000 sign bridge, as long as there is no state force labor involved, such as for delivering or installing the sign bridge. If state forces are going to install the sign bridge, then the labor and equipment costs are added to the materials cost and if that total cost exceeds the RCW limitation, it will not be allowed. Even if the labor and equipment costs were $1, if the sum of the labor, equipment and material costs exceed the RCW limitation it will not be allowed. Written justification for all state furnished materials on all projects, in accordance with RCW 47.28.030 and RCW 47.28.035 must be submitted to the Region ASDE for approval.

750.26 Strip Maps

Strip maps can be used on projects, such as overlays, fog seal, BST, stockpiling, signing, safety, and similar projects, when a great deal of detail is not required.

Many times a strip map can be used for a series of plans within a set of plans, such as for the signing series, if the signing is simple destination type signing and requires no real detail. By simply showing the construction center line with stationing and the required signing information, it is possible, in most cases, to stack the information on the sheet, such that twice the information can be displayed on each sheet. Remember also, that most information that will be shown on strip maps is not really alignment dependent, meaning that a curve in the highway is not going to affect the showing of a sign at the correct station, so the center line can appear as a straight line on the strip map.

The use of strip maps when possible is not only an option, but also a recommended procedure, to reduce the total number of plan sheets in the project.

The use of photographic strip maps is allowed if the work can be shown adequately and if a clear copy can be assured.

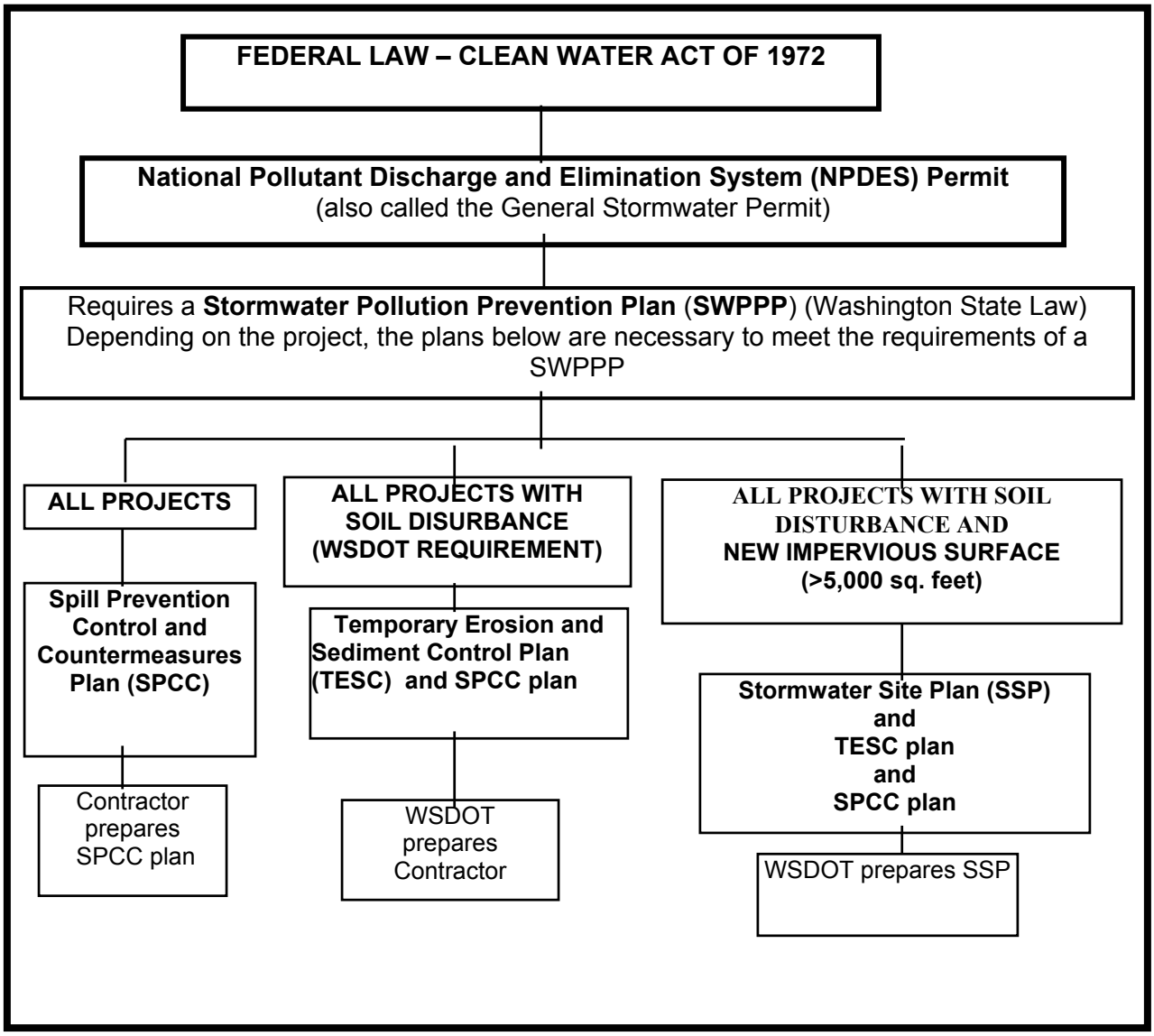
750.27 Temporary Erosion and Sediment Control Plans and Stormwater Site Plans

Temporary Erosion and Sediment Control (TESC) Plans and Stormwater Site Plans (SSPs) describe the temporary and permanent best management practices (BMPs) selected for stormwater detention and water quality treatment during project construction as well as ongoing operation and maintenance of the built facility. A BMP is a physical, structural, and/or managerial practice that prevents or reduces the pollution of water. The goal of TESC Plans and SSPs is to prevent turbid discharges and sediments from leaving the site, prevent the pollution of stormwater, and to meet Water Quality Standards as defined in WAC 173-201A.

TESC Plans are required for all projects that involve land disturbance and/or earthwork during construction and less than 5,000 square feet of new impervious surface is being added to the project site. If the project adds 5,000 square feet or more of new impervious surface, a more comprehensive SSP is required. All SSPs contain a TESC Plan. An NPDES permit is required for only those projects that involve five or more acres of disturbance.

A TESC or SSP, whichever is applicable to a project, are comprehensive reports for several aspects of a project, and contain certain information that is required for nearly all projects. They replace the Water Pollution Control Plan and contractor's Temporary Water Pollution Control Plan. They satisfy the NPDES/Baseline General Permit requirement for a Stormwater Pollution Prevention Plan and our current understanding of the requirements for compliance with the Endangered Species Act. They satisfy the NPDES Municipal Permit requirements for facilitating the construction of permanent water quality and detention BMPs. In addition, they satisfy the erosion control and Stormwater requirements for all other permits that will be required for a project and will aid in completing the HPA, Shoreline, and Corps of Engineer Permits.

PLAN REQUIREMENTS



Region project staff normally designs TESC Plans and SSPs. Their development should be coordinated with the design of permanent Stormwater runoff BMPs since some temporary BMPs can be modified into permanent ones. Most work required by TESC Plans or SSPs should be compensated with unit bid items. Work such as ditch and channel excavation, and BMPs such as silt fences, straw bales, and erosion control blankets, can be easily defined and measured. When completed, the TESC Plan or SSP becomes part of the contract documents.

Complete copies of TESC Plans and SSPs should be sent to the region Permits Group within the Environmental Services Unit for review and approval. Permits will distribute copies of the plans to Water Quality, Hydraulics, Maintenance Office and Environmental Compliance Branch for review and comment on items of the plans pertinent to their respective areas of expertise and responsibility.

The Water Quality Group in your region can assist you in preparation of TESC Plans and SSPs. In addition, the Highway Runoff Manual provides guidelines for the preparation of TESC Plans and SSPs. The Water Quality Exchange folder also contains details on most BMPs and other information helpful in the development of TESC Plans and SSPs. Standard symbols, conventions, and detail sheets for most temporary erosion and sediment control BMP's are presented in the Standards and Symbols section of this manual.

750.28 Truck Weighing Stations

The components of truck weigh stations for which federal funds can be used are:

1. Additional right of way.

2. The construction of access lanes and vehicle standing and storage areas.

3. The illumination of the access lanes and vehicle standing and storage areas.

The construction of the scale house and its service facilities, scale pit and scale are not eligible for federal aid participation.

For additional information on truck weigh stations, see the Design Manual.

750.29 Vehicle Weight Limitations Within Project Boundaries

The designer is to review each individual project to determine if the vehicles employed in the construction that exceeds the gross weight limitations (RCW 46.44) can be tolerated.

When existing bridges or major drainage structures are involved, overweight clearance is obtained from the OSC Bridge and Structures Office. The clearance information provided by the Bridge and Structures Office is to be included in the PS&E portion of the project file.

The designer is to use the information in the Standard Specifications, or include the appropriate GSP in the Contract Provisions, to inform the contractor of the load limit restrictions for the project.

750.30 Warranties and Guarantees

WSDOT may choose to include warranty clauses in Federal-aid highway construction contracts as specified in Code of Federal Regulations, Title 23, Volume 1, revised April 1, 2001 under Subpart D - General Material Requirements Sec 635.413 Warranty Clauses as follows:

> Sec 635.413 Warranty Clauses
> The SHA (State Highway Agency) may include warranty provisions in National Highway System (NHS) construction contracts in accordance with the following:
>
> (a) Warranty provisions shall be for a specific construction product or feature. Items of maintenance not eligible for Federal participation shall not be covered.
>
> (b) All warranty requirements and subsequent revisions shall be

submitted to the Division Administrator for advance approval.

(c) No warranty requirement shall be approved which, in the judgment of the Division Administrator, may place an undue obligation on the contractor for items over which the contractor has no control.

(d) A SHA may follow its own procedures regarding the inclusion of warranty provisions in non-NHS Federal-aid contracts.

There may be occasions when the regions have the need to include warranty and/or guarantee clauses in State funded contracts. The region will notify the Construction Materials Engineer at Headquarters Materials Laboratory and request concurrence to the specification prior to including the Special Provision in the contract documents.

The contractor is required to pass along to WSDOT all manufacturers' normal guarantees and warrantees for products and equipment installed on the project.

750.31 Washington State Laws

Following is a partial listing of laws that are frequently used in the administration of WSDOT contracts:

1. RCW 4.24.360- Any clause in a construction contract that disallows a contractor, subcontractor, or supplier any damages due to unreasonable delays in performance caused by WSDOT is void and unenforceable.

2. RCW 18.104.048 See Section 750.07.01 of this manual. Prior notice of well construction, reconstruction, or decommissioning of wells is required.

3. RCW 18.27.090 - Contractors are exempt from contractor registration laws provided they are pre-qualified by WSDOT.

4. RCW 19.122.040 - See Section 460.15 in this manual for the contents of this RCW. This subject deals with existing utility locations.

5. RCW 39.12 - See Section 1-07.9 of the Standard Specifications. This subject concerns wages.

6. RCW 39.19 - See the GSP concerning minority and women businesses.

7. RCW 46.44 Vehicle Weight Limitations Within Project Boundaries.

8. RCW 47.28.030 - See Section 750.25 in this manual. This subject deals with state force work and materials.

9. RCW 47.28.035 - See Section 750.25 in this manual. This subject is related to RCW 4.28.030 state force work and materials.

10. RCW 47.28.070 - See Sections 1-02.1 of the Standard Specifications. This subject concerns prequalification of contractors.

11. RCW 47.28.100 - See Sections 1-03.3 and 1-03.5 of the Standard Specifications. Contractors are allowed 20 days after award to execute a contract. WSDOT may extend this time no more than an additional 20 days.

12. RCW 47.28.120 - See Section 1-09.9 of the Standard Specifications. Contractors must file their claims within 180 days after acceptance.

13. RCW 49.28 - Wages — overtime.

14. RCW 60.28.010 - See Section 1-09.9 of the Standard Specifications. WSDOT must hold 5 percent of the contract amount in reserve for material

and workman claims. Contractors can post a bond in lieu of reserve fund.

Some of the laws are referenced in the Standard Specifications or the GSPs. Some are not. In either case, these laws are not to be altered, so all Special Provisions that appear to do so should be questioned.

750.32 Washington State Patrol (WSP) Traffic Control Assistance

The following factors are to be considered when evaluating the need to include WSP traffic control assistance in the project:

1. What type of construction is being done?
2. How complex is the traffic control?
3. Are there possibilities of speed reductions?
4. What are the traffic volumes?
5. Is there nighttime work?
6. Are there special geometric conditions?

Refer to Instructional Letter IL 4008.00 and to the Traffic Manual for recommended enhanced enforcement in the work zone.

If it is decided that WSP traffic control assistance is warranted, the region program manager must be contacted to set up the work order and to verify that funds are available in the master GC 9131 agreement. The region program manager will contact OSC Field Operations Support Service Center to obtain a Task Order number, and will then prepare and execute the Task Order in the normal manner and submit it to the OSC Program Manager for action.

The designer will include the money in the project estimate as a below the line item.

750.33 Working Days

The designer needs to give careful consideration to the number of working days allowed for a project. Too many working days can cause as many problems as not enough working days.

The determination of working days for the different work items is to be based on production rates and other considerations. (see Appendix 6) Using the time required for the individual work items, the critical path method is then used to determine how the project work will fit together, and the total number of working days will be determined.

The working days required for bridge construction are to be coordinated with the working days required for the other construction.

The CPM will be placed in the PS&E portion of the project file.

750.34 Contractor Provided Surveying

The IFPTE Union Agreement with WSDOT requires that the Union be notified when contractor-provided surveying, other than for structural work, is included in a contract (the Union does not give approval or concurrence, they only request they be notified).

To include contractor surveying in a project, the PEO first obtains the concurrence of the Region Operations Office. Prior to finalizing the PS&E, the PEO notifies the Region Plans Office a project will include contractor surveying and provides the project name, construction PE name and the reason(s) for including surveying as contractor-performed work. The Region Plans Office then prepares and sends notification to the Union.